THE FOURTH INTERNATIONAL CONGRESS OF PSYCHOLOGY.

THE Congress was held in Paris, in the Palace of Congresses on the Exposition grounds, from the 20th to the 25th of August, 1900. Its president was Professor Ribot, its vice-president Professor Richet, and its indefatigable secretary, on whom rested most of the work of organization, Dr. Pierre Janet. The registered membership numbered over 350, but a large proportion of these were not present. France was of course very fully represented, but the German and English contingents were small, and the American contingent lacked, among others, Professors James and Baldwin, who had expected to attend, but were prevented. Among the visitors present were Ebbinghaus, Külpe and O. Vogt, Ladd and Münsterberg, Sergi and Ferrari, Myers, Flournoy, Demoor, Tschisch, Mlle. Manacéine, and others whose writings are well known.

The Congress was divided into six sections: the physiological and comparative, under the presidency of Ives Delage; the introspective and philosophical, under Séailles; the experimental, under Binet; the pathological, under Magnan; hypnotism and suggestion, under Bernheim; and social psychology, under Tarde. The morning was usually devoted to section meetings, and the afternoon to general sessions.

The presidential address of Ribot was concerned with the progress made in psychology since the Munich Congress. Among the other principal addresses were those of Ebbinghaus, comparing the psychology of the present with that of 100 years ago; of Demoor, on the functions of nerve cells and of the cerebral cortex, as deduced from histological observations; of Sergi, on the treatment of consciousness in modern psychology; of Solokov, on 'colored hearing' considered as a sort of symbolism; of Tarkhanoff, on illusions and hallucinations of frogs.

Vogt aroused an animated discussion by attacking Flechsig's doctrine of association centers, and by denying any psychological value to anatomical studies of the brain.

Mlle. Manacéine presented the results of some experiments concerning the effects of different foods on the disposition of animals. She found dogs to be more tranquil and less quarrelsome on a vegetable diet than on a meat diet. In this connection, Richet reported similar observations of his own, leading to a similar conclusion, except that only *raw* meat differed in its psychic effects from a vegetable diet. On a diet of raw meat the dogs were more quarrelsome, but also more affectionate to their master; all their instincts and passions were sharpened.

Richet presented a remarkable musical prodigy in the person of a little boy who at the age of two and a half years had surprised his parents by spontaneously playing pieces on the piano. Now, after a year of training, he not only uses his tiny hands with considerable 'virtuosity,' but shows a wonderful memory for classical music, a genuine grasp of expression, ability to compose and improvise—in short, the mastery and independence of an artist. A strange fact is that the child can play only on the poor, broken-toned old piano on which he started. Every attempt to substitute a better instrument has led to failure.

Vaschide read a paper summarizing and adding to the evidence for the independence of the muscular and cutaneous senses. Cutting the cutaneous nerves does not demoralize the movements of an animal, as cutting *all* the sensory nerves does.

Alrutz reported some observations on the temperature sense. He is able to evoke a sensation of cold by stimulating the cold spots with warm objects (under certain conditions). The sensation of heat or burning, as distinguished from that of simple warmth, is, he believes, produced by the simultaneous stimulation of both hot spots and cold spots.

Mlle. Joteyko made it probable that the nerve centers are much more resistant to fatigue than the peripheral motor organs.

Schuyten reported, from the pedological bureau of the city of Antwerp (a unique institution), a series of tests of the muscular strength (grip) of pupils throughout the school year. In order to eliminate the effects of increase in age, he ascertained the age in months of each child, and tested him only in the month when he had a certain age, viz, 8 years 9 months in one series, 9 years 9 months in another. The results for the two series, and for girls and boys, showed a close parallelism. There was a gradual increase in strength from October to January, a fall from January to March and a rise again to June or July. March was the weakest month, June and July the strongest.

Netchaeff, of St. Petersburg, reported on some tests of the memory of school children for various sorts of impressions: objects seen, objects heard, names recalling visual, auditory or tactile impressions, names of emotions, abstract names and numbers. He found the memory to be best for objects seen, and next best for names of visual impressions; it was poorest, up to the age of 12 or 14, for names of emotions, and beyond that age for numbers and abstract names. The memory for numbers was always about as strong as for abstract names; and the increase in power to remember these two was, from 9 to 18 years of age, rather slight. The increase was greatest in case of objects seen and of words denoting emotions. The rapidity of the growth of memory fell off at puberty. The boys excelled the girls in remembering objects, the girls excelled in remembering names and numbers.

Psychical research was thoroughly ventilated at the Congress. Flournoy presented his observations on the celebrated medium Helen Smith. Myers and others testified to the remarkable revelations made by Mrs. Thompson—who, by the way, was present at the meetings, and certainly did not give one the impression of anything abnormal or uncanny. Encausse described some electrical apparatus for automatically recording the movements of mediums during a trance, so that their movements may be known, without the embarrassing presence of a scientific observer. Baraduc and others expounded queer ideas and demonstrated queerer-seeming facts relating to 'psychic exteriorization,' etc. Finally, a new psychical research society, the *Institut Psychique*, designed to have an international following, was inaugurated.

No great amount of new apparatus was exhibited at the Congress. Sommer presented some ingenious instruments for recording movements in three dimensions of the hand or leg, also for measuring the size of the pupil in reactions to light, emotions, etc. Scripture exhibited some of his color demonstration apparatus. In addition to this, Binet showed us his laboratory at the Sorbonne, equipped largely for the registration of movements, pulse changes, etc.; and Toulouse invited us out to the Asylum at Villejiuf, where he has installed a psychological laboratory equipped with several new forms of apparatus for testing sensations.

All the Parisian psychologists, in fact, were extremely hospitable. The visitors had every opportunity to meet them and each other, and the sociability of the Congress was one of its most successful features.

R. S. Woodworth.

SCIENTIFIC BOOKS.

Éléments de paléobotanique. By R. Zeiller. Paris, 1900. Carré et Naud. 8vo. Pp. 417. Illustrated.

The remarkable increase in accessions to our knowledge of fossil plants, which has taken place within the last two decades, coupled with a similar advance in our knowledge of existing species, and a recognition that a proper correla-